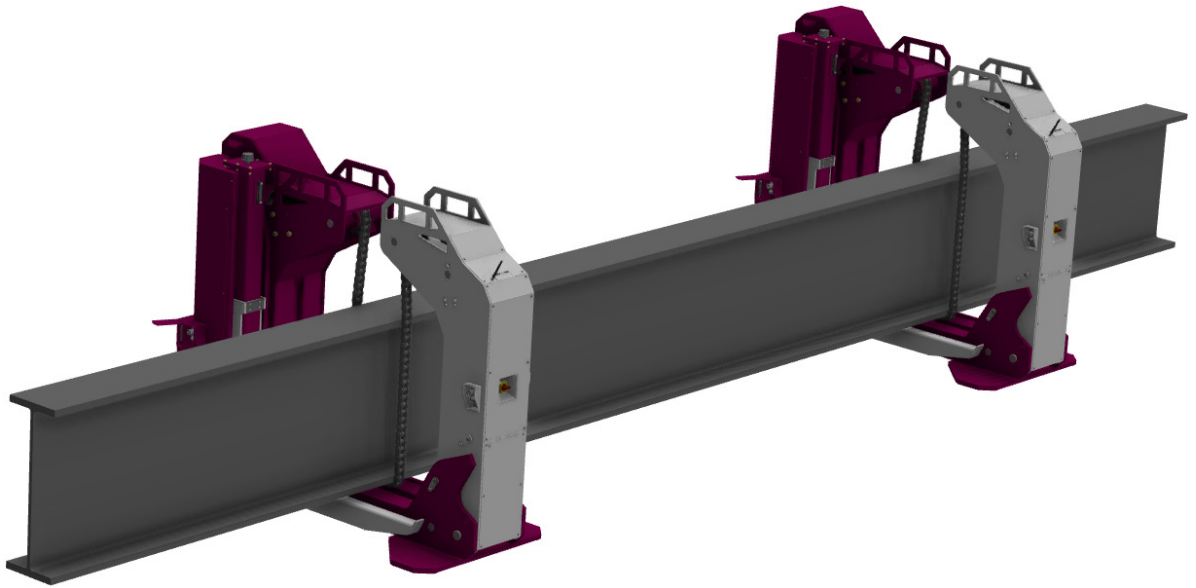


# BEAMCHAMP 360-25

## Operation and Safety

IBC-360-25



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**IBC-360-25**

IBC36025-OSMNLV3R1

# Document Information

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## This Manual

This manual is intended as a basic source of information, providing general information as well as specific warnings and instructions on the safe use and maintenance of InnovaTech Manufacturing's SiteCast 100.

Safety is paramount. InnovaTech Manufacturing presents this information as a reference and guide only, not an all-encompassing "rule-book" on safety. It is the purchaser's and user's responsibility to identify specific safety hazards and determine proper procedures to prevent those hazards from inflicting injury.

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If you have any questions or concerns about the content of this Product Use and Safety Manual or, if you would like to request updated information, please contact us:

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## Document Information

### 1. Safety

### 2. Overview

### 3 Set Up









### 4. Operation

### 5. Specifications

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# 1. Safety

## Safety Alerts

Hazard Level	Signal Word	Signal Color	Signal Symbol	Signal Example	Signal Meaning
Extreme	DANGER	RED			<b>DANGER</b> indicates a hazardous situation which, if not avoided, <b>WILL</b> result in death or serious injury.
High	WARNING	ORANGE			<b>WARNING</b> indicates a hazardous situation which, if not avoided, <b>COULD</b> result in death or serious injury.
Medium	CAUTION	YELLOW			<b>CAUTION</b> indicates a hazardous situation which, if not avoided, <b>MAY</b> result in moderate injury.
Low	CAUTION	YELLOW	no symbol		<b>CAUTION</b> (without a symbol) indicates a hazard or practice not related to personal injury.
NA	NOTICE	BLUE	no symbol		<b>NOTICE</b> addresses practices not related to personal injury, but may give information for safe use.

## Safety Considerations

Before using the BeamChamps, read this manual carefully. Follow all state and federal health laws and local regulations.

The Beam Champs have multiple moving parts. Workers in the vicinity of the Beam Champs should exercise safety precautions and awareness around the jaw, the chains, the support arm, and beams being lifted and rotated. The Beam Champ is manufactured with guards, labels, and safety devices to reduce the likelihood of an accident.

### 1.1 Electrical Hazard

 **ELECTRIC SHOCK CAN INJURE!**

- Do not touch live electrical parts.
- Make sure power is disconnected before accessing electrical parts.
- Lock the product and tag it out of service if electrical parts are malfunctioning.

### 1.2 Moving Parts

 **MOVING PARTS ARE HAZARDOUS!**

- Keep away from moving parts such as fans, belts, and rotors.
- Keep all doors, panels, covers, and guards closed securely.
- Keep hands, hair, loose clothing, and tools away from moving parts.
- Keep body parts clear while opening and closing, raising or lowering the jaw; and while loading, unloading and rotating a beam.

### 1.3 Hydraulics

 **PRESSURIZED FLUID IS A HAZARD!**

- Hydraulic hoses can develop high pressure leaks.
- Hydraulic fluid under pressure can inject into the flesh even through a glove.
- Hydraulic fluid injection can cause serious reaction and infection.
- ***In case of hydraulic fluid injection seek***



*medical attention at once.*

## 1.4 Safety Sensors



**MALFUNCTIONING SENSORS CAN RESULT IN INJURY OR DEATH!**

- Do not bypass sensors.
- Do not alter, disable, or override any safety device.

## 1.5 Hoisting/Lifting



**HOISTING/LIFTING IS HAZARDOUS!**

- Only use hoisting equipment rated to lift at least 6,000 lbs.
- Do not lift from BeamChamp jaw alone. Lifting from jaw may cause it to open creating balancing issues.
- Always use two or more points when hoisting with a crane.
- Do not use Beam Champ chain for lifting or

hoisting. Serious injury could result

- Unplug power supply and secure cords before hoisting or relocating beam champs.
- No one should be under a BeamChamp while it is being hoisted or lifted.
- Hoist or lift only from designated hoist/lift points.

## 1.6 Lockout



**USE LOCK-OUT/TAG-OUT!**

Lockout must be used in any case where a Beam Champ is unsafe to operate, or if it is being serviced or repaired. The lockout point on a BeamChamp is on the main power switch. Turn power switch to “OFF” position



## 2. Overview

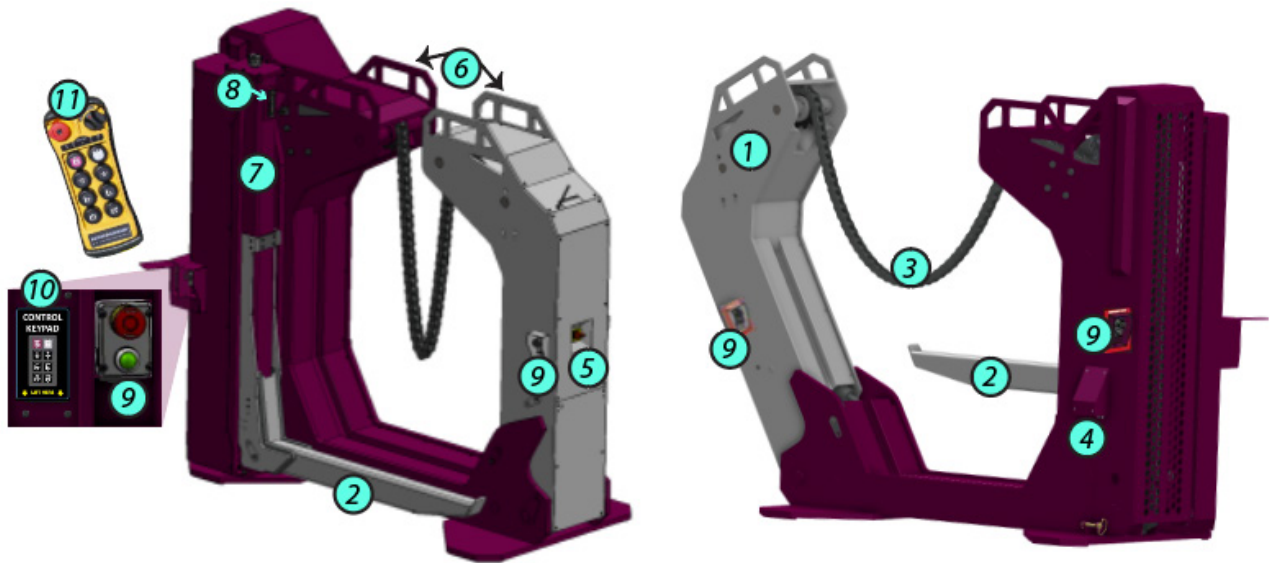
The Beam Champ 360-25 is a beam rotator that can rotate a 25 ton beam 360 degrees. BeamChamps are designed to enhance workplace safety and efficiency where steel beams are being fabricated. The InnoVaTech BeamChamp System is designed to include two or more BeamChamps that work in sync with each other to rotate a single beam. The ends of each beam are cradled on the chains of each BeamChamp and rotated as the chains move together.

The Vertical Jaw Arm opens a BeamChamp for placement or removal of a beam. The Support Arm holds a beam in place during welding or configuring.

Throughout this manual, the term “set” refers to multiple BeamChamps connected to each other.

At time of printing this manual, a maximum of seven BeamChamps can be in a set.

### Nomenclature



- 1. Vertical Jaw
- 2. Support Arm
- 3. Rotation Chain
- 4. Communication Link & Power Connection
- 5. Power Switch/Lockout Point
- 6. Hoist (Lift) Points
- 7. Hydraulic Oil Tank
- 8. Hydraulic Oil Sight Glass
- 9. Emergency Stop (4)
- 10. Unit Keypad
- 11. System Remote



### 3. Set Up

#### Set-Up Safety

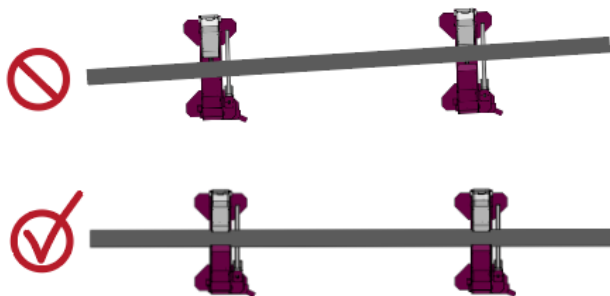
Alignment, appropriate power supply, and proper management of electrical cords must be prioritized when setting up BeamChamps.

**CAUTION EXCESSIVE WEAR!** Failure to properly align BeamChamps will cause top bushings to wear out prematurely.

**CAUTION POWER SOURCE!** Failure to use adequate power will result in electrical malfunction and damage to BeamChamps.

**WARNING ELECTRICAL CORDS!** Failure to unplug BeamChamp before hoisting could result in serious injury or death.

#### 3.1 Alignment



Assure that BeamChamps are parallel to each other within 1/4 of an inch. If BeamChamps are not parallel, chain rotation puts adverse pressure on top bushings.

#### 3.2 Power Supply

The BeamChamps are manufactured with a 50 Amp, 3 Phase, 480 Volt male twist lock connector. The electrical connector is a California style CS8175.

The BeamChamps are manufactured with a durable and robust power supply connector for longevity; however, they only require 6.3 amps.

#### 3.3 Connecting BeamChamp Sets

When connecting BeamChamps to make a set, they need power cycled (turned off and on) in order for them to pair. When removing a BeamChamp from a set, the set needs power cycled to recognize one has been removed. If during operation one BeamChamp loses power, the rest of the set is E-stopped.

### 4. Operation

#### 4.1 Inspection

**Check Daily**

- for loose or missing bolts or nuts
- for cracked or bent members
- for nicks or cuts in power cord
- emergency stops function properly

- hydraulic oil level - Fill if needed.

To check Hydraulic Oil Sight Glass
• Close jaw completely
• Lower support arm completely
• Extend chain completely
• Observe oil sight glass



**USE LOCK-OUT/TAG-OUT!**









If a BeamChamp does not pass inspection lock and tag it out of service until the problem is corrected.

## 4.2 Controls

### A. Unit Keypad

Each BeamChamp has a built in Keypad by which all functions *except "Rotate"* control that particular BeamChamp. **"Rotate" buttons apply to BeamChamp sets.** If remote is not functioning, a BeamChamp can be operated from the single unit keypad.

#### Unit Keypad Nomenclature

- |   |                            |
|---|----------------------------|
|    | 1. Rotate - Chain Forward  |
|    | 2. Rotate - Chain Reverse  |
|  | 3. Increase - Chain Length |
|  | 4. Decrease - Chain Length |
|  | 5. Raise - Support Arm     |
|  | 6. Lower - Support Arm     |
|  | 7. Open - Jaw              |
|  | 8. Close - Jaw             |

### B. System Remote Control

#### Remote Control Nomenclature

The BeamChamps are designed to work as a set of two or more moving simultaneously. The Communication cord connects BeamChamps with each other so that one remote controls multiple BeamChamps.



1. Stop Button
2. Remote On Switch
3. Power & Speed Indicators
4. Rotate - Beam Forward
5. Rotate - Beam Backward
6. Increase - Chain Length
7. Decrease - Chain Length
8. Raise - Support Arm
9. Lower - Support Arm
10. Open - Jaw
11. Close - Jaw

See Appendix C for extensive information on remote control functions.

### C. E-Stops

To stop all functions on BeamChamp(s) press the E-Stop. To release the E-Stop, twist it clockwise.

When an E-Stop is pushed, the Beam Champ set emits a chirp every two seconds. If BeamChamps loose communication connection, it is registered by the BeamChamp as an E-Stop.

E-Stop Light Patterns	
Light Color	Description
Green	No E-Stops depressed
Red	Target E-Stop has been depressed
Light Off	Target E-Stop is not active

### D. Motion Alarm

For safety purposes, Beam Champs have an operation alarm system per unit and per set, which become active while Beam Champ(s) are in motion.

**NOTICE** ALARM SYSTEM





See Appendix B for Operation Alarm System Diagram.

## 4.3 Operating BeamChamps

BeamChamp sets are operated with the Remote Control. They are designed with a safety delay which allows time for anyone in the vicinity to get out of the way before the machine starts to move.

**NOTICE**

**SAFETY DELAY!** A safety delay is activated with the first button pushed. This delay lasts for two seconds warning personnel that the BeamChamp is about to move. The delay will not initiate again unless there are no buttons pressed for twenty seconds.

### *USING THE REMOTE CONTROL*

1. Press "Open" to open BeamChamp Jaws.
2. Load beam onto BeamChamp chains.
3. Press "Close" to close BeamChamp Jaws.
4. Use the "Increase/Decrease" buttons to adjust chain to desired work height.
5. Use "Raise/Lower" buttons to position the Support Arm to where the beam will be secured for welding.

**NOTICE**

**OBJECT SENSOR!** There is an object sensor on the support arm. When support arm gets within two inches of a beam it slows down to reduce impact.

**CAUTION**

**WELDER GRINDING!** Never attach welder ground to a BeamChamp. Welder must always be grounded to a beam.



# 5. Specifications

## General

### Dimensions

Length	
Jaw Closed .....	96.5 in.
Jaw Open.....	120 in.
Width.....	48 in.
Height.....	92 in.
Weight.....	5,700 lbs

### Capacity

Capacity .....	25000 lbs
----------------	-----------

## Systems

### Electrical System

Phase .....	3 Phase
Voltage .....	480 Volt
Control Voltage .....	12 Volt
Electrical Plug .....	CS8175

### Hydraulic System

Max Pressure .....	3500 psi
Normal Pressure .....	3000 psi
Reservoir Capacity.....	14.75 gal
System Capacity .....	18 gal
Hose Burst Strength.....	10,000 psi
Ambient Air Temperature Range .....	0° to 120°
Hydraulic Fluid Recommended .....	AW46
Hydraulic Oil Filter.....	Donaldson P564967



# Appendix A: Labels and Decals

Decal and Label Chart			
Decal ID	Qty	Decal Visual	Decal Application
IBC-360-25-21R02	2		
IBC-360-25-06R02	2		
IBC-360-25-19R02	2		
IBC-360-25-12R02	1		
IBC-360-25-18R02	1		
IBC-360-25-17R02	2		



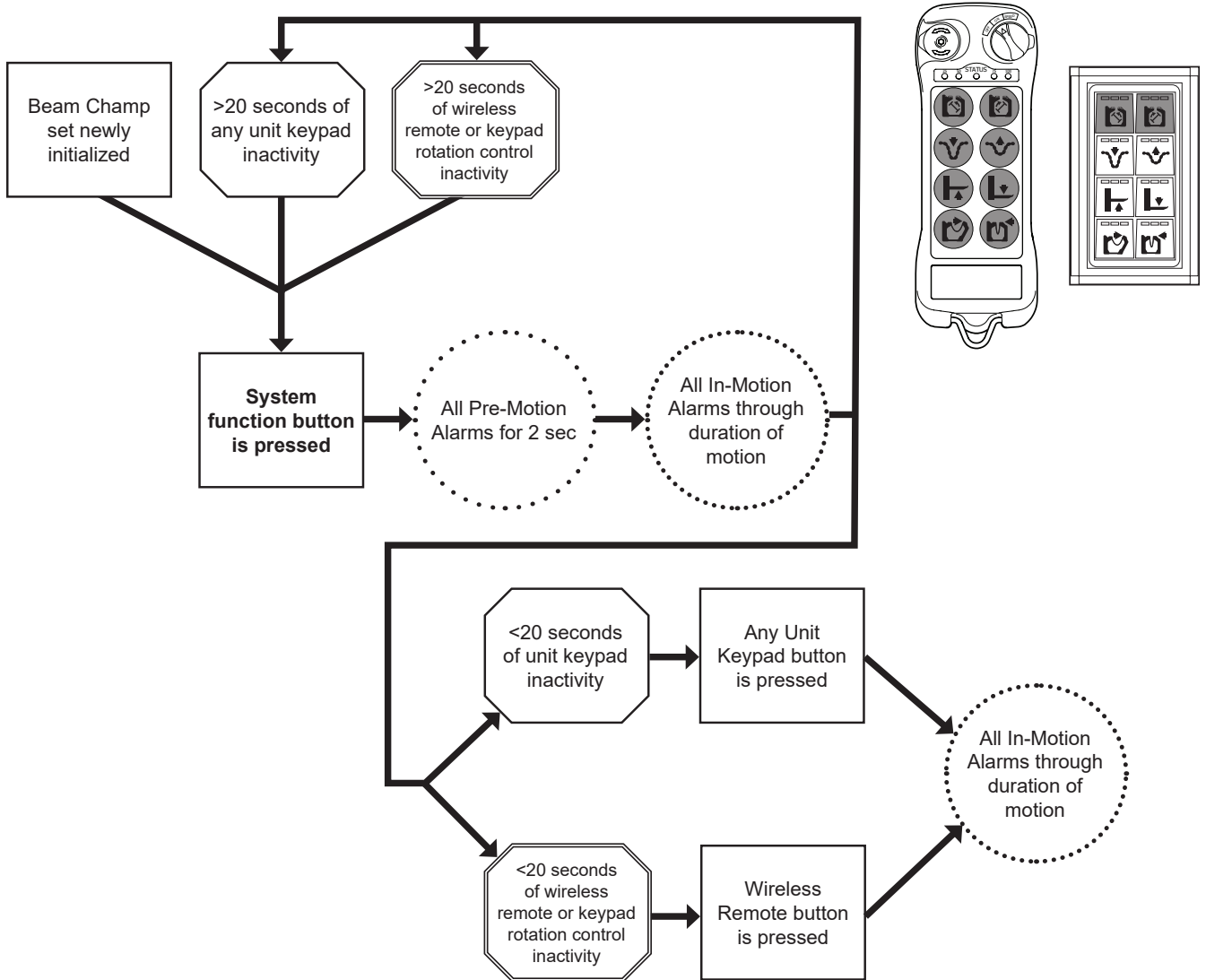
# Appendix B: Alarm System

## Operation Alarms

For safety purposes, Beam Champs have an operation alarm system per unit and per set, which become active while Beam Champ(s) are in motion. See following diagrams for alarm logic.

### System Alarm Diagram

The wireless remote keypad and system functions on the unit keypad initiate the system alarm sequences.



## Appendix C: Remote Control Functions

### System Wireless Remote

The Built-in unit Keypad is not proportional. Its keys function at 100%. The System Remote buttons are proportional, meaning the harder the button is pressed, the faster the speed of motion.

1. Turn on transmitter power by rotating key switch to the "On" position
2. After turning on transmitter power, check the Status LED on the transmitter handset for any sign of system irregularities. If the system is normal the Status LED will light up green for two (2) seconds, then slowly flash green.
3. Now press any push button on the transmitter handset to operate the Beam Champ. When a button is pressed, the Status LED will flash orange with a variable speed dependent on how far the button is pressed. The further a button is pressed, the faster the LED will flash. When no buttons are pressed, the Status LED will slowly blink green.
4. The Remote Keypad has four (4) speed settings which are percentages of the system maximum speed: 25%, 50%, 75%, and 100%. These settings control the maximum speed value of the buttons when fully depressed. (For example, if the speed setting is set to 25%, the motion of the machine will be controlled by how far the button is pressed, with variable speed from 1-25%).
5. To adjust the Remote Keypad speed, move keys witch to "Speed" position. Hold keys witch in position while pressing top left to decrease, or top right to increase. LED light will indicate which speed setting is active.
6. After a period of inactivity (push button not pressed), the remote must cycle power before turning on again. Turn key switch to "Off" position and follow instructions on paragraphs 1 and 2.
7. Turn off the transmitter power by rotating the power key counter-clockwise to the "Off" position (Status LED becomes a solid red for 4 seconds). This will disconnect the transmitter from the receiver. B. Disconnection



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